

CPH-602 : DIGITAL ELECTRONICS AND PROGRAMMING IN C-II

કુલ સમય : ૬૦ મીનીટ

કુલ પ્રશ્નો : ૫૦

વિદ્યાર્થીએ ટીક કરવાના પ્રશ્નો : ૩૫

નોંધ : વિદ્યાર્થીએ માત્ર ૩૫ પ્રશ્નો જ ટીક કરવાના રહેશે. જો વધારે ટીક કરેલ હશે તો પ્રથમ ૩૫ પ્રશ્નો જ ગણતરીમાં લેવામાં આવશે.

1. One example of the use of an S-R flip-flop is as _____.
(A) Transition pulse generator (B) Racer (C) memory (D) Astable oscillator
2. The RS flip flop is constructed using _____ gates.
(A) AND gate (B) OR gate (C) Ex-OR gate (D) NAND gate
3. In S-R flip-flop, if $Q = 0$ the output is said to be _____.
(A) Set (B) Reset (C) Previous state (D) Current state
4. How is a J-K flip-flop made to toggle?
(A) $J = 0, K = 0$ (B) $J = 1, K = 0$ (C) $J = 0, K = 1$ (D) $J = 1, K = 1$
5. How many flip-flops are required to produce a divide-by-32 device?
(A) 1 (B) 4 (C) 5 (D) 7
6. One of the major drawbacks to the use of asynchronous counters is that _____.
(A) Low-frequency applications are limited because of internal propagation delays
(B) High-frequency applications are limited because of internal propagation delays
(C) Asynchronous counters do not have major drawbacks and are suitable for use in high- and low-frequency counting applications
(D) Asynchronous counters do not have propagation delays, which limits their use in high-frequency applications
7. Internal propagation delay of asynchronous counter is removed by _____.
(A) Ripple counter (B) Ring counter (C) Modulus counter (D) Synchronous counter
8. Why the switches used in weighted resistor DAC are of single pole double throw (SPDT) type?
(A) To connect the resistance to reference voltage (B) To connect the resistance to ground
(C) To connect the resistance to either reference voltage or ground (D) To connect the resistance to output
9. Determine the Full scale output in a 8-bit DAC for 0-15v range?
(A) Full scale output=15.1v (B) Full scale output=15.2v (C) Full scale output=14.5v (D) Full scale output=14.94v
10. Which A/D converter is considered to be simplest, fastest and most expensive?
(A) Servo converter (B) Counter type ADC (C) Flash type ADC (D) All of the mentioned
11. A flip flop has _____ output states on Q.
(A) 2 (B) 10 (C) 16 (D) 20
12. Ripple counters are also called _____.
(A) SSI counters (B) Asynchronous counters (C) Synchronous counters (D) VLSI counters
13. BCD counter is also known as _____.
(A) Parallel counter (B) Decade counter (C) Synchronous counter (D) VLSI counter
14. How many natural states will there be in a 3-bit ripple counter?
(A) 4 (B) 8 (C) 16 (D) 32
15. A ripple counter's speed is limited by the propagation delay of _____.
(A) Each flip-flop (B) All flip-flops and gates (C) The flip-flops only with gates (D) Only circuit gates
16. How many clock pulses will be required to completely load serially a 3-bit shift register?
(A) 2 (B) 3 (C) 4 (D) 8
17. The output of shift register is ABh means _____ bits.
(A) 11100100 (B) 10101011 (C) 10101010 (D) 10011001
18. The largest number stored in 8-bit shift register is _____h.
(A) FFFFH (B) FFH (C) 00FH (D) F0H
19. A counter circuit is usually constructed of _____.
(A) A number of latches connected in cascade form (B) A number of NAND gates connected in cascade form
(C) A number of flip-flops connected in cascade (D) A number of NOR gates connected in cascade form
20. What is the maximum possible range of bit-count specifically in n-bit binary counter consisting of 'n' number of flip-flops?
(A) 0 to 2^n (B) 0 to $2^n + 1$ (C) 0 to $2^n - 1$ (D) 0 to $2^{n+1/2}$
21. $Y = A \cdot B \cdot C \cdot D$ is Boolean equation of _____ gate.
(A) NAND (B) NOR (C) AND (D) OR
22. A J-K flip-flop can be obtained from the clocked S-R flip-flop by augmenting _____.
(A) Two AND gates (B) Two NAND gates (C) Two NOT gates (D) Two OR gates
23. A shift register is defined as _____.
(A) The register capable of shifting information to another register
(B) The register capable of shifting information either to the right or to the left
(C) The register capable of shifting information to the right only
(D) The register capable of shifting information to the left only

24. The full form of SIPO is _____.
 (A) Serial-in Parallel-out (B) Parallel-in Serial-out (C) Serial-in Serial-out (D) Serial-In Peripheral-Out
25. A bidirectional 4-bit shift register is storing the nibble 1101. Its input is HIGH. The nibble 1011 is waiting to be entered on the serial data input line. After three clock pulses, the shift register is storing _____.
 (A) 1101 (B) 0111 (C) 0001 (D) 1110
26. What is meant by 'a' in the following C operation?
 fp = fopen("Random.txt", "a");
 (A) Attach (B) Append (C) Apprehend (D) Act
27. Which type of files can't be opened using fopen()?
 (A) txt (B) bin (C) c (D) none of the mentioned
28. Which of the following fopen() statement is illegal?
 (A) fp = fopen("ab(C)txt", "r"); (B) fp = fopen("d:\\home\\user1\\ab(C)txt", "w");
 (C) fp = fopen("abc", "w"); (D) none of the mentioned
29. The function getw() reads _____.
 (A) Integer (B) Float (C) Char (D) double
30. Which among the following is the odd one out?
 (A) printf (B) fprintf (C) putchar (D) scanf
31. What will be output of following program, if, it runs perfectly.
 Void main()
 {
 int *p1,*p2,*p3;
 *p1=5;
 *p2=10;
 *p3=*p1+*p2;
 printf("%d",*p2);
 }
 (A) 5 (B) 10 (C) 15 (D) 0
32. What will be the probable output of the following C code? If, it runs perfectly.
 1. #include <stdio.h>
 2. void main()
 3. {
 4. int x = 0;
 5. int *ptr = &x;
 6. printf("%p ", ptr);
 7. ptr++;
 8. printf("%p\n ", ptr);
 9. }
 (A) 0xbfd605e8 0xbfd605ea (B) 0xbfd605e8 0cbfd60520 (C) 0xbfd605e8 0xbfd605e9 (D) Run time error
33. What will fopen will return, if there is any error while opening a file?
 (A) Nothing (B) EOF (C) NULL (D) Depends on compiler
34. Comment on the following pointer declaration.
 Int *ptr,p;
 (A) ptr is a pointer to integer, p is not. (B) ptr and p, both are pointers to integer.
 (C) ptr is pointer to integer, p may or may not be. (D) ptr and p both are not pointers to integer.
35. Which of the following does not initialize ptr to null (assuming variable declaration of a as int a=0;)?
 (A) int *ptr = &a; (B) int *ptr = &a - &a; (C) int *ptr = a - a; (D) All of the mentioned
36. For a typical program, the input is taken using _____.
 (A) scanf (B) printf (C) Putw() (D) All of the mentioned
37. What will be the output of the following C code (when 4 and 5 are entered)?
 1. #include <stdio.h>
 2. void main()
 3. {
 4. int m, n;
 5. printf("enter a number");
 6. scanf("%d", &n);
 7. scanf("%d", &m);
 8. printf("%d\t%d\n", n, m);
 9. }
 (A) Error (B) 4 junkvalue (C) Junkvalue 5 (D) 4 5
38. What are the first and second arguments of fopen?
 (A) A character string containing the name of the file & the second argument is the mode
 (B) A character string containing the name of the user & the second argument is the mode
 (C) A character string containing file pointer & the second argument is the mode
 (D) None of the mentioned

39. What does the following segment of C code do?

```
fprintf(fp, "Copying!");
```

(A) It writes "Copying!" into the file pointed by fp
(B) It reads "Copying!" from the file and prints on display
(C) It writes as well as reads "Copying!" to and from the file and prints it
(D) None of the mentioned
40. Which one is not common programming error?
(A) Missing semicolons (B) Misuse of semicolons (C) Missing Braces (D) Putting '+' in place of '-'.
41. Which of the following cannot be a variable name in C?
(A) volatile (B) true (C) friend (D) export
42. Which of the following is not a valid variable name declaration in union?
(A) int __a3; (B) int __3a; (C) int __A3; (D) None of the mentioned
43. How many number of pointer (*) does C have against a pointer variable declaration?
(A) 7 (B) 127 (C) 255 (D) No limit
44. What will be the output of the following C code?

```
1. #include <stdio.h>
2. void main()
3. {
4.     int a[3] = {1, 2, 3};
5.     int *p = a;
6.     int **r = &p;
7.     printf("%p %p", *r, a);
8. }
```

(A) Different address is printed (B) 1 2 (C) Same address is printed (D) 1 1
45. Which of the following data types are accepted while declaring bit-fields?
(A) char (B) float (C) double (D) none of the mentioned
46. Which of the following are themselves a collection of different data types?
(A) string (B) structures (C) char (D) all of the mentioned
47. Which of the following cannot be a structure member?
(A) Another structure (B) Function (C) Array (D) None of the mentioned
48. Which of the following structure declaration will throw an error?
(A)

```
struct temp{ }s;
void main(){ }
```


(B)

```
struct temp{ };
struct temp s;
void main(){ }
```


(C)

```
struct temp s;
struct temp{ };
void main(){ }
```


(D) None of the mentioned
49. What will be the output of the following C code?

```
1. #include <stdio.h>
2. void main()
3. {
4.     struct student
5.     {
6.         int no;
7.         char name[20];
8.     };
9.     struct student s;
10.    s.no = 8;
11.    printf("%d", s.no);
12. }
```

(A) Nothing (B) Compile time error (C) Junk (D) 8
50. Which is valid C expression?
(A) `int my_num = 100,000;` (B) `int my_num = 100000;` (C) `int my num = 1000;` (D) `int $my_num = 10000;`